

ABSTRACT OF THE DISCLOSURE

An improved method for compiler support of garbage collection. Live reference data to support a garbage collection process are stored in null operation instructions (NOPs) of an instruction set within the native code. This allows the live reference information to be encoded near the call instruction and thus the information can be retrieved in constant time. This may decrease the amount of processing resources required for garbage collection.

The compiler determines which references are live at each call. The compiler may also determine the number of bits that may be used to store those references. In one embodiment the number of NOPs is sufficient to store the information. In an alternative embodiment, NOPs are artificially inserted to store the information. Because a sufficient number of NOPs are typically present anyway, the method of one embodiment of the present invention does not significantly increase the size of the code.